

Claims:

1. Boring rig (14) for underground excavating boring and including a substructure (21,22), propulsion means,

5 stabilizing means (31,32,35,36,37,38,39,42), and a boring unit (20) having cutter head (29) rotation and forcing means (26), wherein the rig has a first direction of general travel and two sideways directions, and wherein the boring unit (20) is pivotally attached to the substructure for pivotal movement of 10 the boring unit into an operating direction, **characterized in**
- that the stabilizing means include horizontal (31,32) and vertical (35,36,37,38,39) stabilizing means that are attached to the substructure (21,22) in order, in active positions, to be pressed against an adjacent rock face so as to transmit 15 forces from the boring unit (20), that are occurring during boring, to said rock face.

2. Boring rig according to claim 1, **characterized in** that the boring unit (20) is pivotal for operation in directions

20 essentially perpendicular to the first direction and including one sideways direction.

3. Boring rig according to claim 1 or 2, **characterized in** that the boring unit (20) is pivotal over pivot means (30) that are 25 comprised of rotation joints being attached to the substructure (22) at separate locations along the first direction.

4. Boring rig according to any of the previous claims,

30 **characterized in** that at least one actuator (41) is arranged between the substructure (21) and the boring unit (20) for pivotally moving the boring unit.

5. Boring rig according to any of the previous claims dependent of claim 2, **characterized in** that the horizontal stabilizing means are sideways directed horizontal jacks (31,32) positioned on each side of the substructure.

5

6. Boring rig according to claim 5, **characterized in** that there is a force transmitting means (34) provided between each rotation joint (30) and an adjacent holder (33) for a horizontal jack.

10

7. Boring rig according to claim 5 or 6, **characterized in** that each holder (30) for a horizontal jack is attached to a respective side member of the substructure.

15

8. Boring rig according to claim 5, 6 or 7, **characterized in** that each holder (30) for a horizontal jack is integral with a stationary part of a respective pivot means.

20

9. Boring rig according to any of the previous claims dependent on claim 2, **characterized in** that the vertical stabilizing means (35,36,37,38,39) are vertically directed vertical jacks positioned on the substructure.

25

10. Boring rig according to any of the previous claims, **characterized in** that the boring unit (20) is pivotally attached at a bottom portion to the substructure.

30

11. Boring rig according to any of the previous claims, **characterized in** that the boring unit (20) is pivotally attached at a rear portion to the substructure.

12. Boring rig according to any of the previous claims, **characterized in** that the boring unit includes a front (23)

and a rear (24) frame portion which are separated by linear guide means (25) for guiding bore string rotation and forcing means (26).

5 13. Boring rig according to claim 12, **characterized in** that said pivot means (30) are attached to the rear frame portion (24).

10 14. Boring rig according to claim 12 or 13, **characterized in** that each frame portion is comprised of a piece of metal plate.

15 15. Boring rig according to any of the previous claims, **characterized in** that the boring unit (20) at an upper, rear portion is provided with sideways stabilizing means (42) for acting against a rock face in directions which are essentially opposite to the operating direction of the boring unit (20).

20 16. Boring rig according to any of the previous claims, **characterized in** that it includes a control unit for controlling setting of the stabilizing means (31,32,35,36,37,38,39,42) and for controlling boring unit (20) positioning and elevation.

25 17. Boring rig according to claim 15, **characterized in** that the control unit is capable of setting the stabilizing means (31,32,35,36,37,38,39,42) so as to tilt the boring rig (14) at predetermined angles with respect to a supporting ground.

30 18. Boring rig according to any of the previous claims, **characterized in** that it includes a drill string component supply and drill string joining means.